poral side of the V. F. to the nasal side of the retina, and so on for other parts.)

In *cataract* the functional activity of the retina, as tested by a candle, or better, by the reflected light from a mirror, throughout the V. F., is a question which may decide for or against an operation.

In a certain form of *retinitis* (*pigmentosa*) the concentric limitation of the V. F. is peculiar and characteristic. Cases of this disease are often seen with good and sometimes perfect central vision, while the V. F. is reduced to an area not exceeding 10° or 15° in extent.

In *glaucoma* the V. F. is contracted, and most frequently on the nasal side. Often it is this symptom that decides the diagnosis in a doubtful case.

In *hemianopsia* (blindness in one-half of the V. F.) we often gain important information as to the locality of the intra-cranial lesion upon which it depends, by a study of the V. F. The most frequent form is *homonymous* hemianopsia, or blindness of corresponding halves of each V. F. (the nasal of one and the temporal of the other), and in these cases the lesion will be on the opposite side of the brain, involving either the optic tract or the cerebral substance further back. *Crossed* hemianopsia presents two varieties—first, absence of the *temporal* half, and, second, absence of the *nasal* half, of each eye. In the first variety the lesion involves the chiasm, and in the second, which is very rare, the lesion is a double one, involving each side of the chiasm or the outer side of each nerve.

In *megrim*, or sick headache, there are often transient attacks of blindness, or interruptions in the V. F., sometimes of a zigzag form, which is likened to a line of fortification. The cause of these phenomema is probably ischæmia of the retina. They are sometimes seen without headache or other symptoms.

In *optic neuritis* interruptions in the V. F. are common. They may be peripheric or central. The latter are called scotomata, and they are usually indicative of less gravity than peripheral limitations. These are as a rule followed by atrophy of the nerve.

In *optic nerve atrophy* defects in the V. F. are frequently seen, and most often they begin with peripheral limitation on the temporal side. Irregularity, such as sinuosity of outline, or scotomata, are suggestive of an unfavourable prognosis.

Amblyopic affections usually present irregularities in the V. F. that aid us in forming a prognosis. It may be said in general terms, that cases with peripheral contraction are progressive, and that those with perfectly outlined fields, either remain stationary or improve.

A more careful examination as to the *amount of vision* in the various parts of the V. F., will probably enable us to diagnose our cases with more accuracy, and to speak with greater positiveness about the prognosis in cases which are embraced under the last three headings.

All that can at present be claimed for *colour defects* in the V. F., of pathological origin, is that they are of material assistance as an aid to diagnosis, and that they help us in rendering a prognosis, when taken in connection with the other conditions, that go toward making up the case in question. Peripheral limitation of the colour-field, or inability to distinguish certain or all colours, in a circumscribed area (colour scotoma) or throughout the entire V. F., is of frequent occurrence in optic neuritis, in optic nerve atrophy, and in amblyopia. And the same rules that govern defects in the ordinary V. F., apply to abnormal colour perception. *Red* is the colour that usually suffers first, and *green* usually coincidently or next, and finally *blue*.

A *central scotoma for red*, complete or partial, accompanied with more or less marked intra-ocular appearances, is considered by many as being almost pathognomonic of *tobacco amblyopia*. In most of these cases alcohol will also have been used, and a low grade of optic neuritis can usually be detected.

Quinia, when given in large doses, sometimes causes narrowing of the V. F. and limitation of the colour-field or colour-blindness, and may cause total amaurosis.

The same effects are ascribed to *salicin*. The functions slowly return under the influence of time and proper treatment.

NEW YORK, December, 1882.

ARTICLE V.

SOME POINTS IN RELATION TO THE DIAGNOSTIC SIGNIFICANCE OF IMMOBILITY OF ONE VOCAL BAND; WITH ESPECIAL REFERENCE TO ANCHYLOSIS OF THE CRICO-ARYTENOID ARTICULATION AND ANEURISM OF THE ARCH OF THE AORTA: WITH SIX ILLUSTRATIVE CASES.[1]

By SOLOMON SOLIS COHEN, A.M., M.D., Demonstrator of Pathology and Microscopy in the Philadelphia Polyclinic and College for Graduates in Medicine.

THE object of this paper is twofold: 1st, to show that laryngoscopy may sometimes be the sole, or most efficient means of diagnosis in affections located exterior to the larynx; and 2d, to point out that a liability to error might often be incurred, were we to place too exclusive a reliance upon the objective symptoms, as presented by the image seen in the laryngoscopic mirror.

These points, however, will not be treated of *in extenso*, or with any attempt at completeness; but a single phase of the subject will be illus-

[1] Presented as an Inaugural Thesis to the Faculty of Jefferson Medical College. Session 1882–1883.

trated by a group of cases not heretofore reported in this connection. These cases, while differing in aspects to be mentioned later, agreed very closely in the character of the picture seen upon laryngoscopic inspection; the principal and only well-marked feature of which was immobility of one vocal band.

As is well known, immobility of a vocal band is the result of one of two conditions: 1st, mechanical impediment to the movement of the arytenoid cartilage; 2d, want of power in the muscles acting upon that cartilage.

Excluding such obvious causes as the presence of a tumour or of a foreign body, excessive thickening of the inter-arytenoid fold, etc.; mechanical difficulty may arise from anchylosis (either true or false) of the crico-arytenoid joint; from destruction, more or less complete, of the articulation, or of the arytenoid cartilage; or from luxation of the arytenoid cartilage; of all of which conditions, instances have been reported.

Loss of muscular power may be either myopathic or neuropathic in origin. If defective innervation be the cause of the impairment, this condition may be due to disease or injury affecting the nervous system, or may be merely a secondary effect, resulting mechanically from pressure exerted upon a nerve trunk by a consolidated lung, an aneurism, a tumour, or an enlarged gland, etc. The seat of the lesion or pressure, may be central, or at some portion of the course of the fibres transmitting motor impressions; whether these fibres be known in that particular situation under the name of spinal accessory, pneumogastric, or recurrent laryngeal.

Poisoning by lead, and perhaps other toxic agents, may also be the cause of vocal paralyses, and without being able to indicate the exact *modus operandi* in such instances, we may, in passing, mention them as among the possibilities to be considered.

Some of the conditions here indicated will not be again alluded to, as they would give rise to manifestations beyond the larynx sufficiently prominent to attract attention, and sufficiently characteristic to render the diagnosis comparatively easy. Nor is it purposed to enter upon the characteristics by which different forms of muscular and nervous paralyses are differentiated; these being, for the most part, sufficiently obvious upon consideration of the anatomy and physiology of the parts. In order to restrict this paper within reasonable limits, attention will be directed only to the means by which, in certain cases, a conclusion may be reached as to what may be termed the gross character of the lesion; the finer details being considered merely in so far as they may have a direct bearing on this subject.

With this object in view, it seems appropriate to introduce at this juncture, the histories of the cases from which our deductions will be drawn.

CASE I. *Anchylosis of the Left Crico-Arytenoid Articulation; probably due to Extension of the Inflammatory Process in a case of Chronic Laryngitis.*—C. S. G., æt. 23, clerk, applied to Dr. J. Solis Cohen May 27,

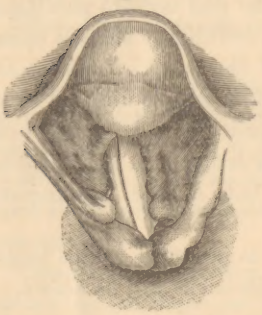
1881, giving the following history: He had enjoyed fairly good health until about sixteen years old. At that time, he contracted from exposure, what was probably a naso-pharyngeal catarrh, the inflammation involving, also, the Eustachian tubes; for he states that he experienced in addition to nasal symptoms, a disagreeable sense of fulness in both ears, and that the physician under whose care he then placed himself, treated him exclusively for ear-trouble, but without affording relief.

As frequently happens in such cases, the larynx became slowly involved; and in the spring of 1879, he first noticed a huskiness in his voice. This huskiness gradually increased, becoming attended with dysphonia, until considerable and painful effort was necessary in order to carry on conversation; and in the fall of 1880, he became completely aphonic. His general health having greatly deteriorated, he made a trip to Texas, from which he derived considerable benefit; his voice sharing in the general improvement.

His condition on applying to Dr. Cohen, was as follows: His voice was hoarse and rough, but distinct and easily heard. It was deficient in tone and power, and any extended use of it would cause the throat to feel tired and sore, while respiration would become slightly embarrassed. When, however, the nasal passages seemed to be clogged with mucus, so that respiration was less free than usual, the voice sounded clearer and stronger, and the throat did not tire so quickly. Owing to his nasal catarrh, the sense of smell was slightly impaired, and nasal respiration always somewhat obstructed. Fulness in the ears, unattended with pain, was a not infrequent symptom. There was no cough, and deglutition was not painful. Appetite was good, and nutrition seemed to be well carried on. The muscles of the right side of the neck and face appeared to have undergone hypertrophic development; probably from the increased action necessary to bring the vocal bands into approximation.

On laryngoscopic examination, the mucous membrane of the larynx presented evidences of chronic inflammation, and there was seen to be moderate tumefaction of the ary-epiglottic folds, ventricular bands and arytenoid eminences. The right ary-epiglottic fold was extremely tense. The left ventricular band exhibited a peculiar fold or knuckle, posteriorly, which became more marked on phonation; when it was also seen that the left vocal band remained immobile in abduction, the right band crossing the median line, its upper surface being on a plane almost inappreciably lower than that of the left band; while the right arytenoid cartilage was swung to the inside and in front of the left arytenoid cartilage. This appearance, almost as difficult to depict as to explain, is shown in the accompanying drawing, Fig. 1; for which, the writer is indebted to the artistic skill of an undergraduate of the College, Mr. Max. J. Stern.

Fig. 1.



No sign of cardiac or pulmonary lesion, of aneurism or intra-thoracic tumour, could be discovered, nor were any enlarged glands found in the neck. The urine was examined with negative results. Attempts to move the left arytenoid cartilage by direct pressure were unsuccessful; and while the catarrhal condition yielded to appropriate remedies, prolonged treatment

by means of both galvanic and faradic currents, as well as the internal administration of strychnine, failed to restore in the slightest degree the mobility of the affected vocal band.

CASE II. *Anchylosis of the Right Crico-Arytenoid Articulation, due to prolonged enforced inaction, consequent upon Fibroma of the Right Vocal Band.* Reported by Dr. J. SOLIS COHEN.—W. B., æt. 26, shoemaker, applied to Dr. Cohen May 1, 1867, to be treated for loss of voice of more than two years' duration. Laryngoscopic inspection having revealed the existence of a neoplasm occupying the entire length of the right vocal band, thyrotomy was performed, and the growth was removed. The patient's voice, though improved by the operation, was still aphonic. On laryngoscopic examination, the band from which the tumour had been removed was seen to be immobile in abduction, and slightly above the level of that of the opposite side. A peculiar angular fold which had been noticed at the posterior portion of the free border of the right ventricular band, and had been attributed to its being pushed out of shape by the tumour, was seen to be persistent. No effect being produced by treatment, Dr. Cohen concluded that during the development of the neoplasm, the crico-arytenoid articulation had become anchylosed. This opinion was verified by Dr. R. J. Levis, who had assisted at the operation, and who now, at Dr. Cohen's request, placed his forefinger, "which is a long one," upon the arytenoid cartilages, and succeeded in moving that of the left side, while that of the right side remained fixed.—*Med. Record*, July 1, 1869.

CASE III. *Aneurism of the Arch of the Aorta compressing the Left Pneumogastric and Recurrent Laryngeal Nerves; Left Vocal Band immobile in Abduction. Death from Rupture of the Sac.*—A. J., æt. 60, sailor, applied to the Throat Clinic of the Jefferson Medical College Hospital, July 1, 1881, for the relief of hoarseness and dyspnœa which had persisted since the previous October, in association with violent attacks of coughing. He attributed the origin of his trouble to exposure, resulting in a severe cold. There was a history of a venereal sore contracted forty years previously, but there had never been any secondary symptoms in evidence of syphilitic infection. He had several times suffered with rheumatism, a severe attack in 1864 lasting for two months. He had followed the sea for forty years without other sickness.

His breathing was stridulous, especially during sleep; dyspnœa was marked, increasing in the recumbent position, so that he was compelled to sleep propped up with pillows. There was severe pain on the left side of the chest, front, and back, increasing at night. At times he complained of pain in the left hip and in the lower third of the left thigh. He had lost flesh, being reduced from 182 pounds to 150 pounds. His appetite was poor, but he had been a dyspeptic for years. Any attempt at laryngoscopic examination provoked an attack of coughing and dyspnœa, so severe as to completely prostrate him; thus leading to suspicion of paralysis of the posterior crico-arytenoid muscles. After some days, however, he became more tolerant, and with delicate manipulation it was possible to conduct a rapid examination. It was thus gradually ascertained that the left vocal band was immobile in abduction, while the right vocal band performed its movements in a somewhat jerky and spasmodic manner. On inspection of the chest, a prominence was noticed in the sternal region, extending from the clavicle to the level of the fourth sterno-chondral articulation, most marked at the level of the third sterno-chondral articulation. No satisfactory information could be obtained, however, as to the length of time for which this condition had existed, or as to whether or not it had been congenital. Percussion elicited slight

dulness anteriorly on both sides as far down as the fourth rib. On auscultation tubular breathing was heard in the right infra-clavicular region. The expiratory sounds were very feeble on both sides.

The heart sounds were normal, but the second sound was distinctly heard two and one-half inches to the right of the sternum. No difference was discernible between the radial pulses or between the pupils. Examination of the urine gave negative results.

This case was presented to the Philadelphia Laryngological Association, and held by competent observers to be one of crico-arytenoid anchylosis. The extreme irritability of the larynx prevented a successful attempt to verify or disprove this diagnosis by the application of direct pressure.

Although it was endeavoured to keep this patient under constant observation, his unwillingness to enter the hospital on the one hand, and the irregularity of his attendance upon the clinic—caused by the relief afforded by palliative treatment—on the other hand, rendered it impossible to do so. After an unusually prolonged absence, an attempt to trace his whereabouts revealed the fact that his death had occurred during a profuse hemorrhage, about ten days previously (August, 1882). The physician who was called in the emergency, reports that there was spitting of blood for two days, after which came the fatal hemorrhage, by him suspected to be of pulmonary origin. *Post-mortem* examination was not permitted.

CASE IV. *Aneurism of the Arch of the Aorta compressing the Left Recurrent Laryngeal Nerve; Left Vocal Band Immobile in Abduction.* —W. M. K., æt. 57, farmer, presented himself September 13, 1882, at the Throat Clinic of the Jefferson Medical College Hospital; and on the following day was made the subject of a clinical lecture to the class, by Dr. J. Solis Cohen.

In May, 1881, this patient became hoarse while at work, after profuse perspiration. In the last four weeks dyspnœa had developed. There was no cough, and no difficulty in deglutition. The patient's general health and family record were good. Syphilis was at first denied, but upon cross-questioning a history of constitutional symptoms was obtained. He had also suffered a number of years ago with rheumatism.

Laryngoscopic examination revealed the left vocal band immobile in abduction. This led to the suspicion of aneurism of the arch of the aorta, and upon physical exploration of the chest the suspicion became a certainty; thrill and bruit being unmistakably present. The pulse was also characteristic of aneurism. The patient was placed in one of the wards of the hospital under the care of Dr. Cohen, and as the result of appropriate treatment rapidly improved. Dr. Charles Meigs Wilson, the resident physician, reports that when he was discharged at his own request, after six weeks' confinement to bed, the dyspnœa had disappeared, the voice was stronger, the equality of the pulses restored, and the signs in the chest scarcely perceptible.

CASE V. *Aneurism of the Arch of the Aorta, compressing the Left Pneumogastric and Recurrent Laryngeal Nerves; Cadaveric position of the Left Vocal Band; Sudden Death from Asphyxia; Autopsy.* Reported by Dr. C. E. BEAN.— R. C., æt. 42, engineer, presented himself Sept. 29, 1880, at the Throat Clinic of the Jefferson Medical College Hospital, under the charge of Dr. J. Solis Cohen. In December, 1878, the boiler of which he had care exploded, and after working for several hours in the heat and steam, he became chilled upon exposure to the night air. Two days later his voice became hoarse, getting gradually worse, until at the end of a week there was complete aphonia; but at no time was there any pain or soreness in the throat. Dysphagia soon became

a prominent symptom. About a week after the explosion he began to cough, expectorating thick frothy mucus. Three months later he first experienced a sense of fulness in the upper part of the chest, just behind the sternum. Respiration was not materially interfered with. The cough, though occasionally wheezing, had assumed a ringing metallic character. Laryngoscopic examination showed fixation of the left vocal band in the cadaveric position.

Thrills were detected below the clavicles, synchronous with the pulse, but these signs disappeared the day after the patient was put to bed. There was no perceptible difference between the radial pulses. The heart sounds were normal. The left pupil was markedly contracted, but this had been the case as far back as the patient's recollection extended. A diagnosis of aneurism of the arch of the aorta was made, but its correctness was disputed by several experienced and qualified observers who made careful examination of the case.

The patient died suddenly Nov. 13, "gasping for breath, unconscious, face and neck very much congested," despite the performance of tracheotomy by the resident physician of the hospital, who reports the case, and who had been hastily summoned in the emergency.

The following is the report of the conditions found on *post-mortem* examination:—

"The apex of the heart corresponded to the left sixth intercostal space, one inch beyond the line of the nipple. The upper part of the anterior mediastinal space was broadened and filled with a fluctuating mass, commencing at the upper border of the pericardium and extending to the sternal notch. The heart and lungs with the descending aorta were removed *en masse*. It was found that the aorta was dilated into a large sac, commencing just above the valves and involving the arch to a point beyond the left subclavian artery. The sac of the aneurism was tightly adherent on the left side of the second and third dorsal vertebræ. On removing the mass, the wall of the sac was found to have disappeared at this point. The aneurism had deflected the lower portion of the trachea strongly to the right, and pressed mostly on the root of the right lung. On looking into the trachea it was seen that its calibre was nearly closed by pressure. Examining the interior of the aneurismal sac, the lower tracheal rings partly calcified had been laid bare and eroded by the pulsation. They protruded with the aneurismal cavity. The left pneumogastric nerve was found running over the aneurism, and had been evidently much pressed upon. The right nerve was less involved. A large ante-mortem clot was discovered in the sac."—*Louisville Med. News*, Jan. 22, 1881.

CASE VI. *Aneurism of the Arch of the Aorta compressing the Left Recurrent Laryngeal Nerve; Left Vocal Band immobile in Abduction.* Reported by Dr. C. E. BEAN.—J. S., æt 70, weaver, applied to Dr. J. Solis Cohen May 17, 1882, for the relief of hoarseness. Sept. 17, 1879, after lifting heavy rolls of carpet, he felt "a peculiar heavy stroke of the heart, and a sense of extreme weakness, so that he 'came near fainting.'" This soon passed away. One week later, two similar attacks occurred. Soon after this hoarseness set in, becoming gradually worse. At the time of examination there was slight dysphonia, and the voice was a falsetto. For several months, even during warm weather, the patient's feet had been cold, but, with this exception, his general condition was good.

Laryngoscopic examination showed the left vocal band immobile in abduction.

Inspection of the chest revealed nothing abnormal. On auscultation, a blowing sound was heard in the second intercostal space, $\frac{1}{2}$ inch to $\frac{3}{4}$ inch to the left of the sternum. This sound was synchronous with the ventricular systole. Inspiration was found to be shrill at the second sterno-chondral articulation, and percussion elicited marked dulness over the same region. Palpation failed to discover thrills or pulsation.

The pulse was 70 and feeble, that of the left side being scarcely perceptible, and lagging one-fourth of a beat behind that of the right side. There was no difference between the pupils. A considerable quantity of sugar was found in the urine.

Marked improvement took place under treatment directed against the condition of aneurism, but the patient became impatient of confinement to bed, and,

contrary to advice, resumed his usual occupations. At last accounts he was still living, and, except for slight hoarseness, perfectly satisfied with his condition.—*Med. and Surg. Reporter*, June 10, 1882.

In reviewing the cases presented in the foregoing pages, there are a few points of special interest to be noticed in each, which it may be well to consider in logical rather than numerical order.

Case II. demonstrates the possibility of anchylosis taking place in the crico-arytenoid joint simply from prolonged inaction. The history, the absence of any other local or systemic disturbance, the failure to respond to treatment, and, finally, the *experimentum crucis* of the application of direct pressure, all place the diagnosis beyond doubt.

Case I. The history of pre-existing, long-continued chronic laryngitis rendered two views within the bounds of possibility: 1st. Myopathic paresis of the crico-arytenoideus lateralis, resulting from extension of the inflammatory process; 2d. Anchylosis of the crico-arytenoid articulation from a similar cause. Apart from the greater improbability of the former opinion, the failure to respond to treatment would be against it; while, as in Case II., the diagnosis seems to be fully established by the *experimentum crucis*.

In both these cases, there are certain points connected with the laryngoscopic image deserving of attention. The vocal band of the affected side occupied a higher level than that of the other side. Can this be explained upon the supposition of inflammatory deposit within the joint, and is it to be considered pathognomonic? This would seem well worthy of observation in future studies of this rare affection. Furthermore, the peculiar fold or knuckle in the ventricular band of the affected side, occurring in cases so far removed in time, and owing to such different causes, would appear to be more than a mere coincidence.

Still another symptom, not mentioned in the *résumé* of Case II. because not bearing on the subject then in hand, yet shared by both of the cases now under discussion, is of interest in connection with the general topic of mechanical impediment to the movement of the vocal bands.

Previous to the removal of the tumour from his right vocal band, the patient was compelled to draw his head and neck well down toward his right shoulder in order to produce his aphonic whisper to the best advantage; though subsequent to the operation this was no longer necessary. In Case I. the left vocal band was immobile, and the patient spoke with his head slightly inclined downward and to the left; the muscles of the right side of the face and neck, as previously stated, being noticeably hypertrophied. This point also appears worthy of remembrance in future observations.

Case V. possesses a high degree of interest, inasmuch as the existence of an aneurism of the arch of the aorta was suggested to a laryngoscopist in a diagnosis by exclusion, of the condition leading to what is usually

termed unilateral vocal paralysis. While the rational symptoms were confirmatory of this opinion, the entire absence of the usual physical signs of aneurism caused experts in physical diagnosis, unfamiliar with laryngoscopy, to doubt its correctness. This case alone fully exemplifies the two texts of this paper; for by relying solely upon the laryngoscopic image the diagnosis would have been neurotic paralysis, while failure to examine the larynx, or to give due weight to its testimony, would have rendered it unlikely for aneurism to have been surmised in the absence of the phenomena usually associated with that affection; there being neither tumour, bruit, nor thrill.

In Case VI. again we have apparent laryngeal disease leading to the discovery of an aneurism which might otherwise not have been detected. The probable small size of the sac, or its favourable situation, prevented compression of the trachea or œsophagus. The pneumogastric trunk not being subject to pressure, another possible cause of cough and dyspnœa was eliminated; hence, the only symptoms attracting the patient's attention were the persistent hoarseness, and the deficient peripheral circulation —the latter condition, however, being easily attributable to old age. The presence of sugar in the urine, probably from reflex irritation of the pneumogastric nucleus in the floor of the fourth ventricle, was confirmatory of the diagnosis; but, as shown by other cases, this sign is not invariably present. The only one of the ordinary physical signs of aneurism exhibited by this case, was the blowing sound in the left second intercostal space.

Case III. is so obscure that in the absence of an autopsy it is impossible to definitely decide its true nature; nor can any one hypothesis explain it fully. Disregarding for the purposes of this paper any possible complication not directly bearing upon the lesion manifested by the laryngeal symptoms, the manner of death would point to aortic aneurism; and upon this supposition the dyspnœa can be explained as the result of compression of the trachea, while the tubular breathing in the right infraclavicular region may be accounted for by pressure exerted upon the air-vesicles in that situation. To the sternal bulging no weight can be attached. The history of rheumatism, while it favoured somewhat the view of aneurism, might likewise, especially in connection with the chronic laryngitis following subacute laryngitis due to direct exposure, have strengthened the view of anchylosis; while evidences of nervous disturbance might have justified the reference of cough and dyspnœa to disease of the pneumogastric trunk. The intensity of these symptoms at first, and their amelioration under medication, point at least to partial nervous origin; probably a secondary effect of the pressure of the aneurism upon the nerves, exactly similar to the immobility of the vocal band. The fact that the position in which the band was fixed was not cadaveric, but that of abduction, is of interest, illustrating (as do Cases IV. and VI.)

the greater liability to impairment of the adductor, over the abductor, filaments of the recurrent laryngeal nerve; a clinical point to which attention has been prominently directed of late years. An intra-thoracic neoplasm might have produced the same mechanical effects as an aneurism; but it is difficult to imagine a morbid growth of sufficient size occupying just this situation, and giving rise to no definite manifestations elsewhere in the economy.

In Case IV., also, we have aneurism detected by means of the laryngoscope; the patient complaining merely of hoarseness and slight dyspnœa. But the evidences of aneurism were so distinct, that the diagnosis presented no difficulty, and might have been made without laryngoscopic assistance.

In three of these cases of aneurism, it is interesting to note that exposure very likely to lead to ordinary subacute laryngitis preceded the laryngeal symptoms, thus causing the patients to imagine that they had simply "caught a bad cold;" and well calculated to mislead the physician; especially had the larynx not been examined.

The question arises, in this connection, whether the exposure and resulting inflammation precipitated the laryngeal complications of the aneurism, or whether the condition of paralysis had not been pre-existent, thus rendering recovery from the inflammatory hoarseness protracted, if not impossible.

In two cases we have history of preceding rheumatism; in one, of syphilis as well.

Finally, to generalize from all the cases herewith presented, generalizations which are warranted by the recorded observations of several authors, we may conclude:—

I. That whenever the left vocal band is immobile in abduction, or in the cadaveric position (positions in which the patency of the glottis is not interfered with), and there is cough or dyspnœa (or both), without cardiac or pulmonary lesion to account for these symptoms, we are justified in suspecting aneurism of the aortic arch; and difficult deglutition will be almost certainly confirmatory of the diagnosis, notwithstanding the absence of tumour, pulsation, thrill, and *bruit*. The only, and exceedingly improbable source of error, would be intra-thoracic neoplasm.

II. That anchylosis of the crico-arytenoid articulation may fairly be suspected in cases of immobility of one vocal band, not referable to mechanical interference with the transmission of nervous force; unaccompanied with evidence of central or local nervous disease; and in which failure to respond to appropriate treatment will warrant us in excluding muscular atrophy. But the diagnosis can be finally established only by the application of direct pressure to the affected arytenoid cartilage.

III. That whenever one vocal band is immobile in the cadaveric position or in abduction, and there are no other signs or symptoms to

assist the diagnosis, anchylosis being eliminated, we should not be satisfied with a diagnosis of neuropathic paralysis; but should keep the patient under observation, with a view to detecting the earliest manifestation of aneurism, consolidated lung, or other mechanical cause for the impaired innervation.

NOTE.—Since the above was written, a case has presented itself (Jan. 29, 1883) at the Throat Clinic of the College Hospital, in which an aneurism of the innominate artery, involving as well the first portion of the right subclavian artery, around which latter winds the right recurrent laryngeal nerve, has, by compressing that nerve, produced cadaveric paralysis of the right vocal band. The voice of this patient has a peculiar shrill tone, and in the act of phonation he carries his head downward and well over to the left. There is a pulsatile tumour just behind the sterno-clavicular articulation, extending laterally about two inches from the median line, rising about one and a quarter inches above the clavicle, and projecting about one-quarter of an inch.

ARTICLE VI.

A CASE OF PRIMARY MONOMANIA (Primäre Verrücktheit). By C. B. BURR, M.D., Asst. Physician to the Eastern Michigan Asylum, Pontiac.

THE circumstances connected with the trial of Guiteau brought prominently to notice a peculiar form of insanity, the so-called primary monomania. In view of the professional interest attaching to this variety of mental disease, the following case is reported:—

K., age 40, was born in New York. His father was of Irish birth, a drunkard, and abusive in his family. His mother was of English descent, but a native of New Jersey; one of a family that is said by the patient to have inherited upward of seventy millions of dollars (?) which cannot be recovered. The early life of the boy was one of hardship, privation, and suffering, and his surroundings were such as to leave enduring unpleasant impressions in his mind. Through the neglect and cruelty of the father the family was separated early. He at the age of eight years was bound out to a mechanic with whom he remained until he was fifteen. After this period he worked at different trades, but showed no capacity for instruction, could not apply himself, and failed to succeed. He hired out to one employer and another, but his "mind was roaming all over the world;" he was restless, unsettled, and governed by impulses. In this mental state he made his way to New York, and shipping on a sailing vessel made a six weeks' voyage. He ascended the Mississippi from New Orleans,

came across the intervening States to Michigan, and took up his residence with an uncle in Grand Haven. There he remained for one year; for the next four he resided in different parts of Connecticut and New York. During this latter period he received his only schooling, studying the ordinary branches of reading, spelling, and arithmetic.

At the age of twenty-one he was living in Jackson, Mich. Here, as near as can be ascertained from his own account, mental alienation became pronounced. A fixed light appeared to him "coming from the morning and evening stars, descending in the shape of a heart." He was at first dazed and bewildered, and at a loss to account for this strange manifestation; then he set about diligently to discover an explanation. He scrutinized his own condition carefully, was critical and morbidly suspicious of others. A recurrence of the visual hallucination rendered him still more thoughtful. He experienced strange sensations and felt a consciousness of being no longer his former self. What could produce such a change? He could account for it only on the supposition that a miracle was being wrought, and it dawned upon him at once that he was "inspired."

The most trifling circumstances confirmed him in this view. The mere mention of his name by one in conversation had a peculiar significance; a look, a glance, or a casual inquiry impressed him deeply, and he drew absurd conclusions from the most innocent remarks. Conceiving himself of necessity an object of great interest, he imagined his affairs were the topic of general conversation. The sight of persons talking together in the street aroused in his mind the belief that a conspiracy was forming against him, a look or gesture being sufficient to convey such important intelligence. He heard his name repeatedly mentioned by men of prominence, and concluded that if he were not the object of their active enmity at least there were special reasons why they should be talking and thinking about him.

Casting about for an explanation of imaginary slights, it was revealed to him that his secret liking for a young lady, the daughter of a wealthy farmer, had been divined, and that a "campaign" was being inaugurated to force him to leave the country. He was naturally bashful, retiring, reserved, and ill at ease in female society, but at this period there seem to have been several ladies whose destinies he imagined in some way involved with his own. There were none to whom he paid active court; indeed with many he had not even a speaking acquaintance; but a toss of the head, a glance, the jostling incident to a crowded place, gave him a peculiar thrill, and caused him to understand the deep regard in which he was held.

In 1861 he enlisted in the army. Here, according to his own account contained in a pamphlet entitled "*The Hero of Seven Battles*," he was many times the object of special interposition of Providence, having been miraculously rescued for some great purpose. "Persecution" followed